

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : HIROSHI KAWATO ET. AL.

Serial No. : 10/573,809

Filed : MARCH 28, 2006

For : POLYCARBONATE RESIN COMPOSITION AND OPTICAL PART

Art Unit & Examiner : 1796, BUTTER, DABID J

DECLARATION UNDER 37 C.F.R. 1.132

Honorable Commissioner for Patents

Alexandria, Virginia 22313

Sir:

I, Yoshihiko HORIO, do hereby declare:

1. I graduated from the master Course in agricultural-chemistry of Kyoto University in 1991.
2. I have been employed by the Idemitsu Kosan Co., Ltd. (the "Idemitsu"), the assignee of the above-captioned patent application from 1991 to the present.
3. From 1991 to 1993, I worked as a researcher for Idemitsu in the area of composite material.
4. From 1993 to the present, I have worked as a researcher for Idemitsu in the area of polymer chemistry, especially syndiotactic polystyrene and polycarbonate.
5. I am an inventor of the present invention. I have a good knowledge of the English language and have read and understood the application papers and the Examiner's Official Action as well as the references cited therein in the prosecution of the above identified patent

application.

6. In order to show unobviousness of the present invention over a combination of art including Hiroshi et. al. (U.S. 2003/0173546); Nising (CA2404480); and/or Dick (U.S. 4,722,955), the following experiment was carried out.

Experiment

(1) Procedures of Experiment :

The materials used in examples and comparative examples are as follows:

(A) Polycarbonate 1: TARFLON FN1700A (trade name, manufactured by IDEMITSU PETROCHEMICAL CO., LTD., viscosity average molecular weight = 18,000),

(C) Alicyclic epoxy compound: CELLOXIDE2021P (trade name, manufactured by DAICEL CHEMICAL INDUSTRIES, LTD.),

(D) Acrylic type resin: Polymethylmethacrylate (PMMA): DIANAL BR83 (trade name, manufactured by MITSUBISHI RAYON CO., LTD., viscosity average molecular weight = 40,000) and
Phosphate compound 3: Triphenyl phosphate (manufactured by DAIHACHI CHEMICAL INDUSTRY CO., LTD.).

Each component was mixed in a ratio given in Tables, and the mixture was kneaded with an extruder at 280°C, and then pelletized.

The resultant pellets were molded with an injection-molding machine at a molding temperature of 280°C and a mold temperature of 80°C to obtain a molded test piece (30 × 20 mm rectangular plate with a thickness of 3 mm), which was subjected to each evaluation test with the same manner described in the specification of the present invention.

(2) Results of Experiment :

The evaluation results are given in Tables below.

Table

| | Components | Comparative Example |
|-----------------------------------|---|---------------------|
| (A) | Polycarbonate 1 | 100 |
| (C) | Alicyclic epoxy compound | 0.01 |
| (D) | Acrylic type resin | 0.1 |
| | Phosphate compound 3 | 0.01 |
| Initial properties | Total light transmission (%) | 81.6 |
| | Yellowing index (YI) | 12.4 |
| | Izod impact strength (KJ/m ²) | 60 |
| | Appearance | turbid white |
| After steam resistance test | Total light transmission (%) | 68.4 |
| | Izod impact strength (KJ/m ²) | 29 |
| | Appearance | turbid white |
| After high temperature aging test | Total light transmission (%) | 79.3 |
| | Yellowing index (YI) | 14.1 |
| | Izod impact strength (KJ/m ²) | 58 |
| | Appearance | turbid white |

7. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Yoshihiko HORIO

Date ; November 26, 2008